REMARKS

At the time the current Official Action was mailed, the Examiner rejected claims 1 –

30. Claims 25 and 26 have been amended to set forth the recited subject matter more clearly.

Reconsideration of the application in view of these amendments and the remarks set forth

below is respectfully requested.

Rejections under 35 U.S.C. §§ 101 and 112

The Examiner rejected independent claims 1, 15, 22, 25 and 27 under 35 U.S.C. §§

112 and 101. Specifically, the Examiner stated:

> Claims 1, 15, 22, 25 and 27 provides for the
> using the plurality of sequence and using the trained
> detector, but since the claim does not set forth any steps
> involved in the method/process, it is unclear what
> method/process applicant is intending to encompass. A
> claim is indefinite where it merely recites a use without
> any active, positive steps delimiting how this use is
> actually practiced
>
> ...
>
> Claims 1, 15, 22, 25 and 27 are rejected under
> 35 U.S.C. § 101 because the claimed recitation of a use,
> without setting forth any steps involved in the process,
> results in an improper definition of a process, i.e., results
> in a claim which is not a proper process claim under 35
> U.S.C. § 101. *Citation omitted.*

Office Action, page 2.

Applicants respectfully traverse these rejections. As a preliminary matter, Applicants

note that these rejections were *not* made in the first or second/final office action mailed with

regard to this case. Applicants respectfully submit that while these rejections are without

merit, as discussed further below, the late-nature of these particular rejections is fallacious and

only serves to frustrate and unnecessarily protract the prosecution of the present application.

Accordingly, Applicants respectfully remind the Examiner of his duties and obligations under 37 C.F.R. § 1.104 and MPEP § 707.07 to provide actions which are complete as to all matters.

With specific regard to the Examiner's rejections, the Examiner has rejected the independent claims as being "Use" claims in accordance with M.P.E.P. § 2173.05(q). Accordingly, as recommended by the M.P.E.P., the claims were rejected on alternative grounds based on 35 U.S.C. §§ 101 and 112. However, Applicants respectfully submit that these rejections are improper as the present independent claims are *not* use claims.

The cases discussed in M.P.E.P. § 2173.05(q) and cited by the Examiner, describing "use" claims are clearly distinguishable over the presently recited subject matter. For instance, in *Ex parte Erlich*, a claim reciting "A process for using monoclonal antibodies of claim 4 to isolate and purify human fibroblast interferon," was properly held indefinite as reciting a process without any steps involved in the process. 3 U.S.P.Q.2d 1011 (Bd. Pat. App. & Inter. 1986). In *Ex parte Dunki*, the Board properly rejected a claim reciting "The use of a high carbon austenitic iron alloy having a proportion of free carbon as a vehicle brake part subject to stress by sliding friction," under 35 U.S.C. § 101. 153 U.S.P.Q. 678 (Bd. App. 1967). Similarly, in *Clinical Products Ltd. V. Brenner*, the district court held that a claim reciting, "The use of a sustained release therapeutic agent in the body of ephedrine absorbed upon polystyrene sulfonic acid," was improper under 35 U.S.C. § 101. In each of these instances, the claim in question was clearly a "use" claim, lacking any steps involved in the process or method. Accordingly, the claims were here to be improper and were properly rejected under 35 U.S.C. §§ 101 and/or 112.

In stark contrast to the claims of the cases describing "use" claims, the presently recited subject matter does indeed set forth the steps involved in the recited method. For instance, claim 1 recites a method comprising, *inter alia*, "receiving a data stream," "generating a plurality of sequences," and "training a detector." Each of these express limitations are *steps* involved in the recited method. Further, each of these steps, when viewed in light of the present specification, would be readily understood by those skilled in the art. Still further, many of the dependent claims recite sub-steps of the steps recited in their corresponding independent claim. Because each of the independent claims does properly set forth a number of steps involved in the recited process, these claims are not mere "use" claims within the standards set forth by the M.P.E.P. and the relevant case law.

While the third step of the method of claim 1 does include the word "using," it does not take away from the fact that the term is simply provided as a qualifier of the recited step. Specifically, the third step of claim 1 recites, "*training* a detector by *determining* a value for a sensitivity parameter using the plurality of sequences." As recited in the claim and clearly described in the specification, the detector is *trained* by determining a value for a sensitivity parameter. The fact that the claim further recites that the sensitivity parameter and thus the training of the detector, is determined at least in part, by using the plurality of sequences generated in the second step of the claim, *does not* obviate the step recited by the claim. In other words, the phrase "using the plurality of sequences" simply qualifies the step of training the detector and determining the value for the sensitivity parameter. The phrase does not turn the claim into a "use" claim.

For at least the reasons set forth above, Applicants respectfully traverse the Examiner's assertion that the present independent claims are "use" claims which do not set forth any steps

involved in the process. Indeed, Applicants respectfully submit that independent claims 1, 15, 22, 25 and 27 are fully compliant with the requirements under 35 U.S.C. §§ 101 and 112. Accordingly, Applicants respectfully request withdrawal of the Examiner's rejections of claims 1, 15, 22, 25 and 27 under 35 U.S.C. §§ 101 and 112, based on the assertion that these claims are "use" claims.

The Examiner also rejected claims 25 and 26 under 35 U.S.C. § 101 as being drawn to non-statutory subject matter. While Applicants do not agree with the Examiner's rejection, rather than belabor the point, Applicants have chosen to amend the preamble of the claims to more clearly set forth the recited subject matter. Specifically, claims 25 and 26 have been amended to recite a "computer-readable medium encoded with computer instructions for..." This particular language is clearly set forth as being directed to statutory subject matter by the M.P.E.P. *See* M.P.E.P. § 2106(IV)(B)(1)(a). Accordingly, in view of the present amendments, Applicants respectfully request withdrawal of the Examiner's rejection of claims 25 and 26 under 35 U.S.C. § 101 as being drawn to non-statutory subject matter.

Rejections under 35. U.S.C. § 102

The Examiner rejected claims 1, 2, 4, 9-11, 12, 15-18, 20-23, 25, 27 and 30 under 35 U.S.C. § 102 as being anticipated by Desai (US 2003/0171900A1). Specifically, with regard to independent claims 1, 15, 22, 25 and 27, the Examiner stated:

> With regards to Claim 1, 12, 15, 17, 22, 25, and 27 Desai teaches a processor-based method comprising:
> receiving a data stream comprising a plurality of temporally ordered data points (Page 1, Paragraph 10);
> generating a plurality of sequences from a first portion of the data stream (Page 1, Paragraph 10); and
> training a detector by determining a value for a sensitivity parameter ("threshold") using a plurality of

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sequences (Page 1-2, Paragraph 12, Page 3, Paragraph 38-40).

Office Action, page 3.

Applicants respectfully traverse this rejection. Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under Section 102, a single reference must teach each and every element or step of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Thus, if the claims recite even one element not found in the cited reference, the reference does not anticipate the claimed invention.

Generally, the present application is directed to a data monitoring system that may be employed to monitor various types of measured data. Paragraph 20, lines 1-6. The data monitoring system 10 may monitor a data stream 12 from any one of a number of data producing systems such as computer-related systems, disk drives, web servers, call centers, traffic systems, car engines, patients, stock market, or citation indices, for example. Paragraph 20, lines 6-13. The data stream 12 may generally include a sequence of temporally ordered data values. Paragraph 21, lines 2-3. In accordance with embodiments of the present invention, the data stream 12 is partitioned into a training window 16 and a testing window 18. Paragraph 28, lines 1-2. The training window 16 is defined as a contiguous portion of the data stream 12 that is used to train a detector 22 configured to detect something notable or interesting about the data stream 12, such as a change. Paragraph 29, lines 1-3. The trainer

20 uses the data in the training window 16 to generate a number of sequences 24 and uses the sequences 24 to determine an optimal value for sensitivity parameter 26 to be used to parameterize the detector 22. Paragraph 29, lines 4-7. The sensitivity parameter 26 might be a threshold, for instance, establishing a level that is used to trigger an alarm 28 if the monitored data reaches the value of the sensitivity parameter 26. Paragraph 29, lines 7-9. The value established for the sensitivity parameter 26 is then delivered to the detector 22 such that the detector 22 can use the sensitivity parameter 26 to determine whether the data in the testing window 18 exhibits the type of behavior that the detector 22 should detect. Paragraph 30, lines 1-3. By establishing a value for the sensitivity parameter 26 and setting the detector 22 to detect changes correlative to the sensitivity parameter 26, the detector is "trained." Paragraph 30, lines 3-6.

Once trained by determining a value for a sensitivity parameter 26 using the sequences 24 generated from the data training window 16, the detector 22 monitors the data contained within the testing window 18 to determine whether the data in the testing window 18 contains the sort of event or exemplify the sort of property the detector 22 is designed to detect. Paragraph 33, lines 1-8. As can be appreciated, the detector 22 is configured to detect "something" in the data stream 12. Paragraph 34, lines 1-2. That is to say, the detector 22 is configured to monitor the data stream 12 to detect something of interest, such as the occurrence or non-occurrence of a notable event or the implication that the data producing system 14 is in a state of interest. Paragraph 34, lines 2-4. Most commonly, the detector 22 will be configured to detect that a salient change has occurred in the data stream 12 – either that a salient change occurred within the testing window 18 or that the data contained in the testing window 18 is saliently different from the data contained in the training window 16. Paragraph 34, lines 4-8.

In summary, embodiments of the present system are directed to a system configured to receive a data stream. The system includes a trainer which samples a first portion of the data stream (e.g. in a "training window") to train the system to detect events, such as changes, in a second portion of the data stream (e.g. in a "testing window"). That is, the present system uses a first portion of the data stream to train itself to detect something in a second portion of the data stream.

Accordingly, independent claim 1 recites a method comprising "receiving a data stream comprising a plurality of temporally ordered data points," "generating a plurality of sequences from a first portion of the data stream," and "training a detector by determining a value for a sensitivity parameter using the plurality of sequences." Independent claim 15 recites a method comprising "training a detector using a plurality of sequences generated from a first portion of a data stream, wherein the detector is configured to detect an interesting event in the data stream," and "testing a second portion of the data stream using the trained detector." Independent claim 22 recites a system comprising "a trainer configured to generate a plurality of sequences from a first portion of a data stream and further configured to determine one or more sensitivity parameters based on the sequences," and "a detector configured to detect an interesting event in the data stream using the one or more sensitivity parameters." Independent claim 25 recites a computer-readable medium encoded with computer instructions for "generating a plurality of sequences from a first portion of a data stream," "determining a sensitivity parameter using the plurality of sequences," and "training a detector to detect an interesting event in the data stream using the sensitivity parameter." Independent claim 27 recites a system comprising "means for generating a plurality of sequences from a first portion of a data stream," "means for determining a sensitivity parameter based on the

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plurality of sequences," and "means for detecting an interesting event in a second portion of the data stream using the sensitivity parameter."

As a preliminary matter, Applicants respectfully remind the Examiner of his duties and obligations under 37 C.F.R. § 1.104 and M.P.E.P. § 707.07. Applicants note that each of independent claims 1, 15, 22, 25 and 27 recite various features and embodiments of the present invention. While certain of the recited features are common to more than one independent claim, other features are not common to each of the claims. In the present office action, the Examiner only directed applicants to certain passages of the Desai reference as purportedly pertaining to independent claim 1. When a reference is complex or shows or describes inventions other than that claimed by the Applicants, the particular part relied on by the Examiner must be designated as nearly as practicable and the pertinence of each reference to each independent claim must be clearly explained. *See* 37 C.F.R. § 1.104(2); *See also* M.P.E.P § 707.07. As set forth below, Applicants have responded to the Examiner's rejection with specific regard to claim 1. To the extent that certain features of independent claims 15, 22, 25 and 27 are also recited in claim 1, Applicants traverse the Examiner's rejection of those claims for reasons set forth with regard to the rejection of independent claim 1.

However, Applicants stress that certain features recited in claim 1 are not recited in independent claims 15, 22, 25 and 27, and that each of independent claims 15, 22, 25 and 27 recite respective features which may not be recited in claim 1 and which may provide further distinguishing features with regard to those respective claims. For instance, in addition to "training a detector," as recited in claim 1, independent claim 15 further recites "testing a second portion of the data stream using the trained detector." Independent claim 22 recites both "a trainer" and "a detector." Independent claim 25 recites a computer-readable medium

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encoded with computer instructions for generating sequences, determining a sensitivity parameter and training a detector to detect an event. Independent claim 27 recites a system comprising means for performing the steps of claim 25. These additional elements of independent claims 15, 22, 25 and 27 were not considered by the Examiner in the present rejection. If the Examiner chooses to maintain these rejections, Applicants respectfully request that the Examiner provide a more detailed summary of those features of the recited claims and direct Applicants to the allegedly similar features disclosed in the cited reference with sufficient specificity to allow Applicants to appropriately respond. Notwithstanding this request, Applicants respectfully submit that the Desai reference does not disclose each of the elements recited in any of the independent claims.

According to the background of the Desai reference, prior art detection systems do not effectively detect the presence of a particular signal of interest in the presence of noise that cannot be accurately approximated as a Gaussian probability density function, nor do prior art systems effectively detect the presence of a particular signal of interest in the presence of interferents of uncertain or unknown characteristics. Paragraph [0005]. Thus, to address this problem, the Desai reference discloses a system and method for detecting a particular signal of interest within a set of measurements. Abstract. The particular signal of interest is detected in the presence of arbitrary noise and interferents. Abstract. The system and method are capable of detecting the presence of the particular signal of interest in the presence of non-Gaussian noise and unknown interference. Abstract. This subject matter is in stark contrast to the subject matter disclosed in the present application, and recited in the present claims.

With specific regard to the rejection of independent claim 1, Applicants respectfully submit that the Desai reference does not disclose "receiving a data stream comprising a

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plurality of temporally ordered data points," "generating a plurality of sequences from a first portion of the data stream," or "training a detector by determining a value for a sensitivity parameter using the plurality of sequences," as recited in claim 1 of the present application. First, the Desai reference does not disclose "receiving a data stream *comprising a plurality of temporally ordered data points.*" Emphasis added. While the Desai reference describes acquiring measurement data, there is nothing to suggest that the measurement data is temporally ordered. In fact, it appears that the "measurement data" that is described in Desai does not include a plurality of temporally ordered data points, as recited in claim 1, and that any temporal aspect of the measured data of Desai is irrelevant, as the formulas provided in Desai do not have a temporal component. *See e.g.*, paragraphs [0010] – [0025].

Second, even if there were some temporal aspect to the measured data of Desai, Desai *does not* disclose "generating a plurality of sequences from a first portion of the data stream," as further recited in claim 1. Assuming, *arguendo*, that the measurement data disclosed in Desai, could be reasonably correlated with the recited data stream, there is nothing in the Desai reference to suggest that a plurality of sequences are generated from a first portion of the measurement data. With regard to this element, the Examiner directed Applicants to paragraph [0010] of the Desai reference, but made no further comment regarding the identification of such elements. Applicants are unable to discern anything that can be fairly correlated with the recited step of "generating a plurality of sequences," much less that the plurality of sequences are generated from a first portion of a data stream comprising temporally ordered data points, as further recited in claim 1.

Third, even if Desai did teach generating a plurality of sequences from a first portion of a data stream comprising temporally ordered data points, the Desai reference does not disclose

"training a detector ... using the plurality of sequences," as further recited in claim 1. As disclosed and discussed at length in the present specification, in accordance with embodiments of the present invention, the detector is trained to test a second portion of a data stream using the first portion of the same data stream. Relevant to the present discussion, claim 1 recites "training a detector ... using the plurality of sequences," which, as discussed above, are generated from a first portion of the received data stream. The Desai reference does not disclose training a detector by using a plurality of sequences generated from a first portion of the asserted measurement data. Accordingly, the Desai reference fails to disclose this element of claim 1, as well.

Further, with regard to claim 15, there is nothing in the Desai reference that can be reasonably correlated with "testing a second portion of the data stream using the trained detector," as inferred in the prior paragraph. As previously discussed, the Examiner made no specific comments regarding the features uniquely recited in any of the independent claims other than those common to independent claim 1. However, because claim 15 recites "testing," and at least this unique feature was not discussed above with regard to claim 1, to avoid any future rejection of claim 15 based on Desai, Applicants respectfully assert that this feature is also missing from the teachings of Desai.

Because the Desai reference does not disclose at least these features recited in independent claims 1 and 15, the Desai reference cannot possibly anticipate the subject matter recited in independent claims 1 and 15, or those claims dependent thereon. Further, for at least these reasons, the Desai reference cannot possibly anticipate the subject matter recited in independent claims 22, 25 and 27, or those claims dependent thereon. Accordingly,

Applicants respectfully request withdrawal of the Examiner's rejections under 35 U.S.C. § 102 and allowance of claims 1, 2, 4, 9-12, 15-18, 20-23, 25, 27 and 30.

Rejections under 35 U.S.C. § 103

The Examiner rejected claims 3, 5, 13, 19, 24 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Desai as in view of Cox et al. (5,734,592). Further, the Examiner rejected claims 6-8 and 28-29 under 35 U.S.C. § 103(a) as being unpatentable over Desai and Cox as applied to claims 3 and 26 and further in view of Ikeguchi et al. (US 2005/0075832 A1). Applicants respectfully traverse this rejection.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

Each of the claims rejected under 35 U.S.C. § 103 is dependent on one of the independent claims rejected under 35 U.S.C. § 102. As set forth above, Applicants respectfully submit that the Desai reference does not disclose or suggest each of the elements recited in any of the independent claims. Accordingly, for at least the reasons set forth above,
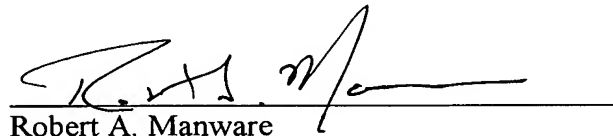
and based on the claim dependencies, Applicants respectfully submit that claims 3, 5, 6-8, 13, 19, 24, 26 and 28-29 are also allowable over the Desai reference. Applicants respectfully submit that neither the Cox reference, nor the Ikeguchi reference cures the deficiencies of the Morita reference discussed above. Accordingly, Applicants respectfully request withdrawal of the Examiner's rejections under 35 U.S.C. § 103 and allowance of those claims.

Conclusion

Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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